

WHAT IS CLAIMED IS:

1 1. A process for producing a carboxylic acid comprising culturing *Candida*
2 *sp.* in a fermentation medium containing a substrate of the formula $R(CH_2)_nCH_3$, wherein n is
3 ≥ 1 and R is selected from the group consisting of epoxide, alkoxy, ether, saturated primary
4 alcohol, cycloalkyl, aryl, diol and diol ester, whereby at least one terminal methyl group of
5 the substrate is oxidized to a carboxylic acid.

1 2. The process of claim 1 wherein the substrate is dissolved in a solvent prior
2 to contact with the fermentation medium.

1 3. The process of claim 2 wherein the solvent is an organic solvent.

1 4. The process of claim 3 wherein the organic solvent is selected from the
2 group consisting of ethanol and hexane.

1 5. The process of claim 3 wherein the organic solvent is acetone.

1 6. The process of claim 1 wherein the *Candida sp.* is selected from the group
2 consisting of *C. albicans*, *C. cloacae*, *C. guilliermondii*, *C. intermedia*, *C. lipolytica*, *C.*
3 *maltosa*, *C. parapsilosis*, and *C. zeylenoides*.

1 7. The process of claim 1 wherein the *Candida sp.* is *C. tropicalis*.

1 8. The process of claim 7 wherein *C. tropicalis* is substantially β -oxidation
2 pathway blocked.

1 9. The process of claim 8 wherein *C. tropicalis* is H5343.

1 10. The process of claim 8 wherein one or more P450 *CYP* genes, P450 *CPR*
2 genes, or a combination thereof is amplified in said *C. tropicalis*.

1 11. The process of claim 1 wherein the substrate is a compound selected from
2 the group consisting of dodecylvinyl ether, dihexyl ether, dipentyl ether, 1-dodecanol, 2-
3 hexyldecanol, 2-butyl-1-octanol, 1,2-hexadecanediol, epoxidized soybean oil, 1,2-
4 epoxytetradecane, butylcyclohexane, propylcyclohexane, ethylcyclohexane, polyethylene
5 glycol 200 monolaurate, polyethylene glycol 200 dilaurate.

1 12. A process for producing a carboxylic acid comprising culturing *Candida*
2 *sp.* in a fermentation medium containing a substrate selected from the group consisting of 12-
3 hydroxystearic acid, hexadecyl pelargonate, castor oil, hexadecyl acetate, dodecene,
4 tetradecene, hexadecene, octadecene, trans-2-nonene, 7-trans-tetradecene, 2-heptylundecanoic
5 acid and 2-hexyldecanoic acid whereby at least one terminal methyl group of the substrate is
6 oxidized to a carboxylic acid.

7 13. The process of claim 12 wherein the substrate is dissolved in a solvent
8 prior to contact with the fermentation medium.

1 14. The process of claim 12 wherein the *Candida sp.* is selected from the
2 group consisting of *C. albicans*, *C. cloacae*, *C. guilliermondii*, *C. intermedia*, *C. lipolytica*, *C.*
3 *maltosa*, *C. parapsilosis*, and *C. zeylenoides*.

1 15. The process of claim 12 wherein the *Candida sp.* is *C. tropicalis*.

1 16. A process for producing an alcohol comprising culturing *Candida sp.* in a
2 fermentation medium containing a substrate of the formula $R(CH_2)_nCH_3$, wherein n is ≥ 1 and
3 R is selected from the group consisting of epoxide, alkoxy, ether, saturated primary alcohol,
4 cycloalkyl, aryl, diol and diol ester, whereby at least one terminal methyl group of the
5 substrate is oxidized to an alcohol.

1 17. The process of claim 16 wherein the substrate is dissolved in a solvent
2 prior to contact with the fermentation medium.

1 18. The process of claim 17 wherein the solvent is an organic solvent.

1 19. The process of claim 18 wherein the organic solvent is selected from the
2 group consisting of ethanol and hexane.

1 20. The process of claim 18 wherein the organic solvent is acetone.

1 21. The process of claim 16 wherein the *Candida sp.* is selected from the
2 group consisting of *C. albicans*, *C. cloacae*, *C. guilliermondii*, *C. intermedia*, *C. lipolytica*, *C.*
3 *maltosa*, *C. parapsilosis*, and *C. zeylenoides*.

1 22. The process of claim 16 wherein the *Candida sp.* is *C. tropicalis*.

1 23. The process of claim 22 wherein *C. tropicalis* is substantially β -oxidation
2 pathway blocked.

1 24. The process of claim 23 wherein *C. tropicalis* is H5343.

1 25. The process of claim 23 wherein one or more P450 *CYP* genes, P450 *CPR*
2 genes, or a combination thereof is amplified in said *C. tropicalis*.

1 26. The process of claim 16 wherein the substrate is a compound selected
2 from the group consisting of dodecylvinyl ether, dihexyl ether, dipentyl ether, 1-dodecanol, 2-
3 hexyldecanol, 2-butyl-1-octanol, 1,2-hexadecanediol, epoxidized soybean oil, 1,2-
4 epoxytetradecane, butylcyclohexane, propylcyclohexane, ethylcyclohexane, polyethylene
5 glycol 200 monolaurate, polyethylene glycol 200 dilaurate.

6 27. A process for producing an alcohol comprising culturing *Candida sp.* in a
7 fermentation medium containing a substrate selected from the group consisting of 12-
8 hydroxystearic acid, hexadecyl pelargonate, castor oil, hexadecyl acetate, dodecene,
9 tetradecene, hexadecene, octadecene, trans-2-nonene, 7-trans-tetradecene, 2-heptylundecanoic
10 acid and 2-hexyldecanoic acid, whereby at least one terminal methyl group of the substrate is
11 oxidized to an alcohol.

1 28. The process of claim 27 wherein the substrate is dissolved in a solvent
2 prior to contact with the fermentation medium.

1 29. The process of claim 27 wherein the *Candida sp.* is selected from the
2 group consisting of *C. albicans*, *C. cloacae*, *C. guilliermondii*, *C. intermedia*, *C. lipolytica*, *C.*
3 *maltosa*, *C. parapsilosis*, and *C. zeylenoides*.

1 30. The process of claim 27 wherein the *Candida sp.* is *C. tropicalis*.